

REMARKS

The Office Action dated January 2, 2003, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 1, 3, 4, 6-13 are pending and have been examined. No new matter has been added.

Claims 1-11 and 13 are rejected under 35 U.S.C. §102(e) as being allegedly anticipated by *Bernstein* (U.S. Patent No. 5,912,880). In addition, claim 12 is separately rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Bernstein* in view of *Pitio et al.* (U.S. Patent No. 5,834,980). In making the latter rejection, the Office Action took the position that *Bernstein* discloses many of the claimed elements of the invention with the exception of a phase detector, and that a polarity of the control signal is changed in accordance with the results of comparison, where *Pitio et al.* was cited for curing this deficiency. The above rejections are respectfully traversed according to the remarks that follow.

The present invention, according to claim 1, is directed to a clock generating method for an asynchronous transmission. The method includes the steps of determining a plurality of actual signal arrival times, averaging the plurality of actual signal arrival times and correcting a timing of a receiving clock on a basis of an average of the plurality of actual signal arrival times and an expected signal arrival time. The method further includes deriving an expected signal arrival time from the receiving clock and

determining a frequency difference between a frequency corresponding to an average of the plurality of actual signal arrival times and a frequency of said receiving clock, and changing the frequency of the receiving clock according to said frequency difference.

The present invention, according to claim 7, is directed to a clock generating apparatus for asynchronous transmission. That apparatus includes means for determining an average of actual signal arrival times and for generating a control signal on a basis of a determined average of the actual signal arrival times and an expected signal arrival time and means for correcting a timing of a receiving clock on a basis of the control signal.

Applicants respectfully assert that the subject matter of the amended claims is novel, as well as being non-obvious, over the cited references, i.e., *Bernstein* and *Pitio et al.*

Bernstein is concerned with a system and method for ATM CBR timing recovery, as disclosed for example in Fig. 2 and corresponding description passages (column 2, line 57 to column 3, line 24). As derivable from the block circuit structure of Fig. 2 of *Bernstein*, a receiver's clock is corrected according to an average cell interarrival time. At most, this could arguably correspond, if at all, to correcting the timing of the clock based on the plurality of actual signal arrival times.

However, claim 1, as discussed above, in addition to the above feature, states that correcting a timing of a receiving clock is also based on an expected signal arrival time. The Office Action has failed to acknowledge this feature in detail. To emphasize this aspect of present claim 1, Applicants have incorporated the subject matter of claim 2 into

claim 1, stating that an expected signal arrival time is derived from the receiving clock. This is also originally disclosed and explained in detail with regard to Fig 2 of the present application and corresponding specification pages. Furthermore , the feature has been set out in greater detail by the inclusion of the subject matter of claim 5 in the present claim 1.

There are many differences between *Bernstein* and the present invention that should be emphasized. Applicants note that it appears that the Office Action alleges that *Bernstein* determines an average cell interarrival time by determining the amount of time required for a predetermined number of cells to arrive. In particular, according to Applicants understanding, the Office compares the amount of time required for a predetermined number of cells to arrive to correspond to the expected signal arrival time.

In contrast thereto, the amount of time required for a predetermined number of cells to arrive depends only on the transmission frequency (i.e., the transmission rate) but not on the receiver frequency. Rather, the receiver frequency, i.e., the receiving clock, according to Applicants understanding, prior to being corrected, serves to determine and expected signal arrival time.

As such, *Bernstein* fails to teach or suggest that correcting a timing of a receiving clock is also based on an expected signal arrival time, as provided in independent claims 1 and 7. Therefore, Applicants respectfully assert that the rejection of those claims over *Bernstein* is improper for failing to teach or suggest all of the elements of those claims.

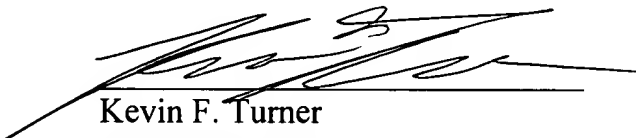
Similarly, Applicants also assert that claims dependent on claims 1 and 7 would also be allowable for at least their dependence on claims 1 and 7.

As discussed above, *Bernstein* is acknowledged in the Office Action as not teaching a phase detector and that a polarity of the control signal is changed in accordance with the results of comparison. While it is acknowledged that *Pitio et al.* was cited for curing these deficiencies of *Bernstein*, *Pitio et al.* fails to teach or suggest the elements of claim 7 that were missing from *Bernstein*. For this additional reason, Applicants respectfully assert that claim 12 should be allowed over the cited prior art.

To conclude, Applicants respectfully request the allowance of claims 1, 3, 4, 6-13 and request that the application be allowed to pass to issue. If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Copy of Filed Revocation and New Power of Attorney